

## ABSTRACT

The present invention provides a harness for retrofitting optical subassemblies in an optical assembly housing. Each optical subassembly resides in a feature in the harness. The features of the harness constrain the optical subassemblies in the six possible degrees of freedom without requiring assistance from the housing. When residing with the housing, the harness is also constrained in the six possible degrees of freedom. When an optical subassembly is to be upgraded or replaced, a harness with different features may be used to facilitate the upgrade or replacement. In addition, the harness with different features may be used to change or add a characteristic of the assembled device without requiring significant changes to the optical assembly housing. The harness thus reduces the difficulties in adding or changing the assembly optical device, which may also reduce the costs of the addition or change.